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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,054	04/18/2006	Naoya Tanaka	10921.399USWO	2150
52835 7590 05/28/2008 HAMRE, SCHUMANN, MUELLER & LARSON, P.C. P.O. BOX 2902 MINNEAPOLIS, MN 55402-0902				
EXAMINER				
AYCHILLHUM, ANDARGIE M				
ART UNIT		PAPER NUMBER		
2841				
MAIL DATE		DELIVERY MODE		
05/28/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

## Application No.

10/576,054

## Applicant(s)

TANAKA, NAOYA

## Examiner

ANDARGIE M. AYCHILLHUM

## Art Unit

2841

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SI/02)  
Paper No(s)/Mail Date 04/18/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7 are rejected under 35 U.S.C 103 as being unpatentable over Fields et al. (US 4,821,007) in view of Ziemkowski (US 6,651,323 B2).

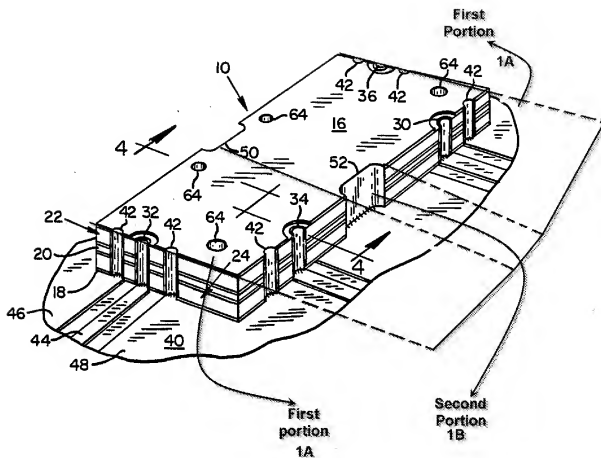
**Pertaining to claim 1**, Fields et al. discloses a wiring board (10) (see figs. 1-3) having a width (see figs. 1-3); and wherein the wiring board (10) comprises a first portion (1A, see below Fields et al. fig. 1) (the large portion) and a second portion (1B) (the small cross-section) (see below Fields et al. fig. 1), the first portion (1A) having a relatively large cross section (see figs. 1-3) extending across the wiring board (10) in a direction of the width (see figs. 1-3), the second portion (1B) having a relatively small

cross section extending across the wiring board (10) in the direction of the width, the first portion (1A) of the wiring board (10).

Fields et al. does not specifically disclose an electronic component.

However, Ziemkowski discloses an electronic component (103, 105, 107 and 109) (see Ziemkowski fig. 1) mounted on the first portion of the wiring board (100).

Therefore, it would be obvious to one having ordinary skill in the art at the time the invention was made to provide components mounted on the first portion of the wiring board (10) of Fields et al. device based on the teachings of Ziemkowski. The motivation being in order to provide circuit components on the wiring board that have different require functions, such as, signal amplification, and/or processing.



**Pertaining to claim 2**, Fields et al. discloses the wiring board (10) provided with a recess (below 52) (see figs. 1-3) for partially reducing the width of the wiring board (10).

**Pertaining to claim 3,** Fields et al. discloses the wiring board (10) is provided with a hole (30, 32, 34 and 36) (see figs. 1-3) penetrating the wiring board.

**Pertaining to claim 4,** Fields et al. discloses the wiring board (10) is provided with a groove (below 52) (see figs. 1-3) for partially reducing a thickness of the wiring board (10).

**Pertaining to claim 5,** Fields et al. as modified by Ziemkowski discloses the groove (below 52) is formed in a surface of the wiring board (10) that is opposite to another surface upon which the electronic component (101 of Ziemkowski) is mounted.

**Pertaining to claim 6,** Fields et al. as modified by Ziemkowski discloses the wiring board (10) having a width (see Fields et al. fig. 1 below) includes two first portions (1A) and a second portion (1B), each first portion (1A) having a relatively large cross section (see fig. 1 below) extending across the wiring board (10) in a direction of the width (see figs. 1-3), the second portion (1B) (see Fields fig. 1 below) intervening between the two first portions (1A) (see Fields fig. 1 below) and having a relatively small cross section extending across (see figs. 1-3) the wiring board (10).

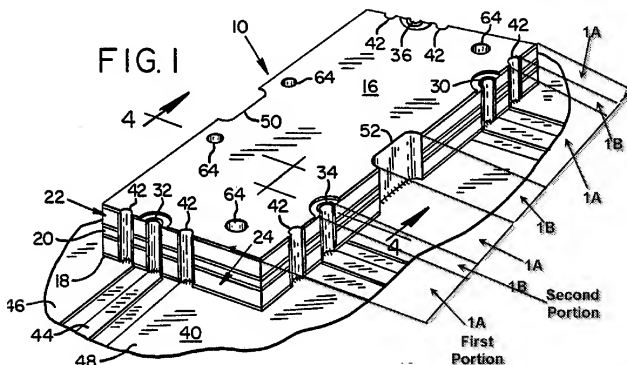
Fields does not specifically disclose plurality of electronic components mounted on different portions of the wiring board.

However, Ziemkowski discloses plurality of electronic components (103, 105, 107 and 109) (see Ziemkowski fig. 1 below) mounted on different sections/portions of the wiring board (100).

Therefore, it would be obvious to one having ordinary skill in the art at the time the invention was made to provide electronic components on different sections/portions

of the wiring board (10) of Fields et al. device based on the teachings of Ziemkowski.

The motivation being in order to provide plurality of circuit components mounted on different sections of the wiring board for instance to arrange similar circuits on the same portions of the wiring board in order to simplify the wiring of the circuits that have different require functions.



**Pertaining to claim 7**, Fields et al. as modified by Ziemkowski discloses a the wiring board (10) comprises a plurality of first portions (1A) (see fig. Fields 1 above) and a plurality of second portions (1B) (see Fields fig. 1 above), each first portion having a relatively large cross section extending across the wiring board (10) in a direction of the width, each second portion (1B) having a relatively small cross section (see figs. 1

above) extending across the wiring board (10) in the direction of the width of the first portions (1A) of the wiring board (10).

Fields does not specifically disclose plurality of electronic components mounted on different portions of the wiring board.

However, Ziemkowski discloses plurality of electronic components (103, 105, 107 and 109) (see Ziemkowski fig. 1) mounted on different sections/portions of the wiring board (100).

Therefore, it would be obvious to one having ordinary skill in the art at the time the invention was made to provide electronic components on different sections/portions of the wiring board (10) of Fields et al. device based on the teachings of Ziemkowski. The motivation being in order to provide plurality of circuit components mounted on different sections of the wiring board for instance to arrange similar circuits on the same portions of the wiring board in order to simplify the wiring of the circuits that have different require functions.



***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDARGIE M. AYCHILLHUM whose telephone number is (571) 270-1607. The examiner can normally be reached on (Mon-Fri from 8:30-5:00). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dean A. Reichard/

Supervisory Patent Examiner, Art Unit 2841

A.A.  
May 12, 2008

